
CHAPTER 7

TACTICAL ENABLING OPERATIONS

Tactical enabling operations are specialized missions planned and conducted to achieve or sustain a tactical advantage and executed as part of an offensive, defensive, stability, or support mission. The fluid nature of the modern battlefield increases the frequency with which the infantry battalion must plan and execute enabling operations such as passage of lines, relief operations, obstacle reduction, linkup operations, and high-value asset security. At the battalion level, the C2 INFOSYS facilitate the planning and execution process of these often complex and decentralized operations. This chapter establishes techniques and procedures unique to the battalion that can be applied to these specialized missions.

Section I. SECURITY OPERATIONS

Security operations are those operations undertaken by a commander to provide early and accurate warning of enemy operations, to provide the force being protected with time and maneuver space within which to react to the enemy, and to develop the situation to allow the commander to effectively use the protected force (FM 3-0).

"Skepticism is the mother of security. Even though fools trust their enemies, prudent persons do not. The general is the principal sentinel of his army. He should always be careful of its preservation and see that it is never exposed to misfortune."

--Frederick the Great

7-1. PURPOSE

Security operations provide reaction time, maneuver space, and protection of the force. They are characterized by aggressive reconnaissance aimed at reducing terrain and enemy unknowns, gaining and maintaining contact with the enemy to ensure continuous information, and providing early and accurate reporting of information to the protected force. Units may conduct these operations to the front, flanks, or rear of a larger force. Security operations forces orient in any direction from a stationary or moving force. Security operations pertain to any attempt to use aggressive attack and defeat of enemy reconnaissance units to deny the enemy intelligence information concerning the battalion. Security operations contain both passive and active elements and normally include combat action to seek, destroy, or repel enemy reconnaissance units.

7-2. FORMS OF SECURITY OPERATIONS

There are five forms of security operations: screen, guard, cover, area security, and local security.

- *Screen* is a form of security operation that primarily provides early warning to the protected force.
- *Guard* is a form of security operation whose primary task is to protect the main body by fighting to gain time while also observing and reporting information and preventing enemy ground observation of and direct fire

against the main body. Units conducting a guard mission cannot operate independently because they rely upon fires and combat support assets of the main body.

- *Cover* is a form of security operations whose primary task is to protect the main body by fighting to gain time while also observing and reporting information and preventing enemy ground observation of and direct fire against the main body.
- *Area security* is a form of security operation conducted to protect friendly forces, installations, routes, and actions within a specific area.
- *Local security* consists of low-level security operations conducted near a unit to prevent surprise by the enemy.

The battalion normally participates in covering force operations only as part of a larger element. The screen, guard, and cover, respectively, require increasing levels of combat power and provide increasing levels of security for the main body. However, more combat power in the security force means less for the main body. Area security preserves the commander's freedom to move his reserves, position fire support means, provide for command and control, and conduct sustaining operations. Local security provides immediate protection to his force.

7-3. SCREEN

The primary task of a screening force is to observe, identify, and report information. The screening force protects the main body, impedes and harasses the enemy with supporting indirect fires, and destroys enemy reconnaissance elements within its capability.

a. **Battalion Screen.** At battalion level, the reconnaissance platoon normally performs screen missions. When the terrain provides multiple enemy avenues of approach, the battalion commander may attach the reconnaissance platoon to a company to conduct a screen. The screening force generally establishes a series of OPs and conducts patrols to ensure adequate surveillance of the assigned sector.

b. **Company Screen.** A company may be directed to conduct a screen in support of offensive and defensive operations. When given a forward screen mission, the company moves as in a movement to contact.

c. **Planning a Screen.** When assigning a screen mission to a company, the battalion commander designates the general trace of the screen and the time it must be established. The initial screen line should be forward of the general trace but remain within range of supporting artillery. Screen lines are depicted as phase lines. Passage graphics are included in the overlay.

(1) Designate the left and right limits of the screen as well as a phase line for the rear boundary. This phase line can also become the on-order battle handover line.

(2) Confirm which unit has responsibility for the area between the screening force's rear boundary and the MBA. This should be the company that occupies the sectors behind the screen.

(3) Designate general locations for OPs enabling observation of the avenues of approach into the sector.

(4) Select routes or sectors to facilitate rearward displacement.

(5) Augment the security force as needed to provide intelligence, engineer, air defense, signal, and combat service support.

d. **Intelligence Support.** The S2 designates which named areas of interest the company must observe and when. The S2 does not dictate the location of company elements, nor how the company maintains surveillance of the NAI. If GSRs or UAVs operate under battalion control to support the security effort, the S2 positions these assets and integrates their locations and missions with the security action of the screening company. Once the screen force commander positions his unit, he informs the S2 of their primary, alternate, and subsequent locations.

e. **Maneuver.** Generally, the best unit configuration for the screen mission is a task-organized SBCT infantry company. The ability to place infantry squads on the ground and conduct surveillance operations and active patrolling is an essential passive aspect of the screen mission. The MGS platoon may be employed to destroy the enemy's reconnaissance vehicles during the counterreconnaissance fight.

f. **Fire Support.** The FSO prepares for the screen mission as he would for a defense. He uses the enemy situation template as a guide to plan fires to interdict enemy maneuver elements. He plans protective fires for all screen force positions, which helps prevent screening force elements from becoming decisively engaged with the enemy. Accurate indirect fire is essential to the destruction of the enemy reconnaissance effort. The FSO conducts a time-distance analysis covering the enemy's probable rate of advance and the time of flight of artillery or mortars. If available, COLT teams may be added to the screen force for use against enemy vehicles.

g. **Engineer Support.** Generally, the engineer effort is dedicated to the battalion's main defensive area. If available, some engineer effort may be dedicated to the forward screen. The obstacle plan should not be severe enough to alter enemy movement significantly prior to the enemy's becoming engaged by forces in the MBA. The screening forces emplace obstacles to disrupt the enemy reconnaissance forces and fixing forces. Point-type obstacles (11 row wire, point AT minefields, modular pack mine systems [MOPMS], and Hornet) along restrictive portions of the enemy's avenues of approach are examples of obstacles that may be bypassed yet covered by direct and indirect fires.

h. **Logistics.** The logistics planner must plan for responsive and flexible support that may require the immediate resupply of ammunition and evacuation of casualties and equipment upon contact. Lateral supply routes to each battle position are identified during the planning process. Moreover, on-order control measures, LRPs, UMCPs, and AXP are essential to the operation. Emergency resupply vehicles carrying ammunition and other quickly expendable supplies, plus refuelers, are prepared to respond to sudden requisitions due to enemy contact. Once the battalion begins the fight, evacuation of wounded personnel and damaged equipment occurs along lateral supply routes.

7-4. GUARD

A guard mission is assigned to protect the force by observing the enemy, reporting pertinent information, and fighting to gain time. The guard force differs from a screen force in that it contains sufficient combat power to defeat, repel, or fix the lead elements of an enemy ground force to prevent it from engaging the main body with direct fires. The guard force normally deploys over a narrower front than a comparably sized screening force, allowing greater concentration of combat power. The guard force routinely engages enemy forces with both direct and indirect fires and operates in range

of the main body's indirect fire weapons. The guard force commander must understand fully the degree of security his unit provides the larger unit. This is critical because as the battle progresses, the higher unit commander may require the degree of security to change, such as from early warning to detailed and aggressive security for the main body. There are three types of guard operations conducted in support of a stationary or moving friendly force (Figure 7-1).

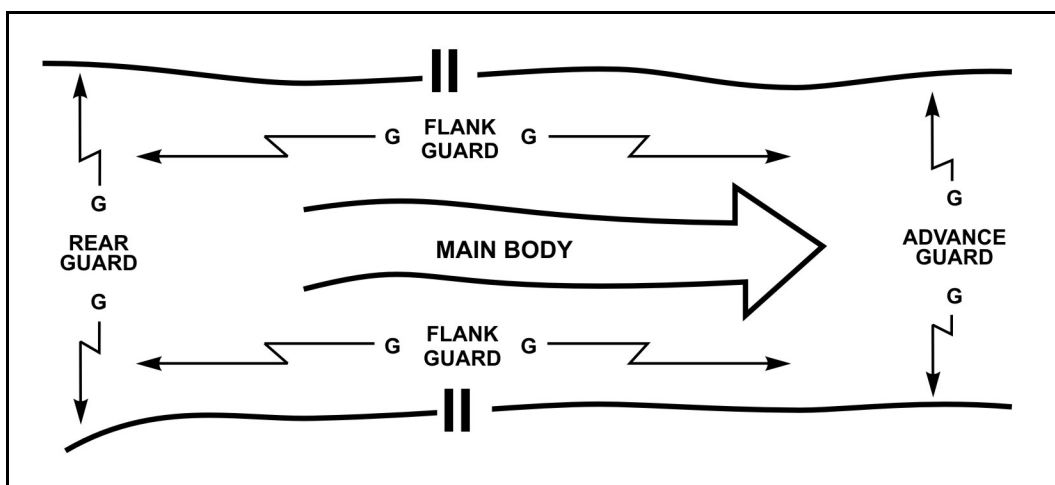


Figure 7-1. Rear, flank, and advance guard operations.

a. **Advance Guard.** The advance guard moves ahead of the main force to ensure its uninterrupted advance, to protect the main body against surprise, to facilitate the advance by removing obstacles and repairing roads and bridges, and to cover the deployment of the main body as it is committed to action. The advance guard is a task-organized combined arms unit or detachment that precedes a column or formation.

(1) The advance guard is normally conducted as a movement to contact. Generally, a battalion receives an advance guard mission when the SBCT moves as part of the division main body in a movement to contact. In deploying an advance guard, the SBCT ensures the battalion has priority of fires. Unlike a movement to contact, the advance guard clears the axis of enemy elements to allow the unimpeded movement of the main body battalions. The security force develops the situation to hand over the enemy to the battalion. The advance guard can conduct hasty attacks if it has sufficient intelligence to overwhelm the enemy.

(2) Depending on the commander's estimate of the situation, a battalion conducting an advance guard normally conducts a movement to contact with companies advancing on axes, in zone, or (rarely) along directions of attack.

(3) Based on METT-TC, trail elements of the advance guard must ensure they maintain adequate distance forward of the main body's lead elements to ensure freedom of maneuver for the main body. The battalion commander establishes phase lines to control the movement of the main body and the advance guard. Advance guard units remain within the SBCT's artillery range.

(4) The advance guard force attempts to destroy enemy forces through hasty attacks. It may be necessary for the battalion to mass at certain locations, destroy the enemy, report, and continue with its mission. If enemy resistance is well prepared and cannot be

destroyed, the battalion reconnoiters to identify a bypass route for the main body, to report enemy size and location, and (when given permission) to fix and bypass the enemy. The following attacking forces are responsible for destroying the bypassed enemy. The main body commander may elect not to bypass the enemy but to conduct a deliberate attack. In this case, the advance guard keeps the enemy contained and prepares to pass main body elements through to eliminate the enemy.

b. **Rear Guard.** When a division conducting a movement to contact requires rear security, a battalion may receive a rear guard mission. The rear guard protects the rear of the main body and all CS and CSS elements in the main body. It may accomplish this by conducting an attack, a defense, or a delay. A battalion commander conducting a rear guard operation follows the same axis of advance as the protected force at a distance prescribed by the main body commander and normally within artillery range. The battalion commander establishes company battle positions or sectors. When using sectors, he designates phase lines and checkpoints to control movement. The rear guard's responsibility begins at the main body rear boundary and extends as far from this boundary as the factors of METT-TC allow.

c. **Flank Guard.** A battalion may receive a flank guard mission during a division movement to contact. The flank guard is responsible for clearing the area from the division main body to the flank guard's designated positions. The battalion must be prepared to operate on a frontage greater than for other tactical operations. Usually, the area extends from the lead forward screen, along the flank of the formation, to either the FEBA or the rear of the moving formation, tying in with the rear guard. Due to the complexities of this operation, this manual provides the following detailed discussion of flank guard operations:

(1) **Templates and Analysis.** Once the battalion receives a flank guard mission, the S2 determines the type of threat facing the battalion during its movement. This information is critical to the commander in his selection of appropriate formation and movement techniques. The IPB must incorporate the entire area of operations, with analysis of the mobility corridors and avenues of approach extending from the FEBA to the objective. The S2 produces a situational template and an event template. He develops and inputs a reconnaissance and surveillance plan with specific objectives for subordinate units as the enemy overlay. Subordinate units verify the S2's situational template during reconnaissance and periodically send enemy overlay updates back to the S2. The staff develops the decision support template (DST) to assist the commander in assessing the situation and making decisions.

(2) **Formation and Movement Techniques.** From the intelligence estimate, the commander determines the formation and movement technique, accounting for the enemy situation and main body disposition. Movement techniques include--

(a) *Alternate Bounds.* The commander uses this technique when he anticipates strong enemy action against the flank. It requires slow movement by the main body.

(b) *Successive Bounds.* The commander uses this technique when he expects enemy action against the flank to be light and movement of the main body to include frequent short halts.

(c) *Moving Guard.* The commander uses this technique when he expects no enemy action on the flank and the main body will move with all possible speed. In the moving guard, a company executes the forward screen mission while traveling as in a movement

to contact. The mortar platoon follows the forward screening company to provide support. The reconnaissance platoon, normally with antiarmor assets under OPCON, conducts a flank screen outside the tentative battle position line. The remaining companies travel in column along an axis behind the forward screen. The commander uses this technique when the greatest enemy danger appears to be from the front.

(3) **Fire Support.** The fire support officer plans and integrates battalion mortar and artillery fires for flank guard operation the same as for any offensive operation. Based on the IPB, he targets those enemy avenues of approach that threaten the force. He targets known and suspected enemy positions along the axis of advance or in the battalion zone to support the forward screening element. During the operation, the battalion executes its fire support plan as it would in movement to contact and defensive operations. On the forward screen, as the battalion encounters enemy positions and subsequently destroys or fixes and bypasses them, it uses artillery to suppress the position. Should the enemy attempt to attack from the flank, the battalion executes the fire support plan as it would for defensive operations to support the defense or delay.

(4) **Engineer Support.** Since the SBCT infantry battalion will normally not receive an attached engineer officer for CP planning, the battalion engineer officer in charge of the attached engineer unit will provide planning support and lead his unit. The assistant brigade engineer officer from the SBCT maneuver support cell may provide the battalion with a detailed situational obstacle plan to facilitate the countermobility effort. The battalion engineer officer has two missions to consider in planning the flank guard mission: mobility and countermobility operations. Engineers are organized as they would be for a movement to contact. Usually, they follow the lead element and assist in negotiating any obstacles that prevent continued advance. The obstacle plan should include rapidly emplaced obstacles through SCATMINES, Volcano, or other assets. Engineers also identify key bridges or other potential obstacles during the planning process so they can render them unusable for enemy maneuver. Above all, the engineers develop a plan allowing the responsive emplacement of obstacles on short notice.

(5) **Air Defense.** The battalion must plan for either active or passive air defense measures. When ADA assets are DS to the battalion, the unit commander or platoon leader will assist the staff in developing a flexible plan to allow for the protection of the force as it changes posture between moving and stationary. Most ADA assets are attached to maneuver elements and the main CP. Route protection or other areas go without support or rely on protection from main body ADA assets. The battalion executes the air defense plan as in a movement to contact where a moving force may need to adopt a defensive posture quickly. Whether moving or stationary, air defense assets must be linked to the main body's air defense early warning net and the positioning of assets must protect not only the flank guard but also approaches into the main body.

(6) **Logistics.** The logistics planner has the same difficulties as in planning a movement to contact. He must plan for responsive and flexible support that may require the immediate resupply of ammunition and evacuation of casualties and equipment upon contact. The planner identifies lateral supply routes to each battle position during the planning process. Moreover, on-order control measures, LRPs, UMCPs, and AXPs are essential to the operation. As the battalion begins its movement, the battalion trains should travel abreast of the flank guard unit (close to the main body) to avoid exposing CSS elements to the enemy. Emergency resupply vehicles carrying ammunition and other

quickly expendable supplies, plus refuelers, are ready to respond to sudden requisitions due to enemy contact. Once the battalion begins the fight, evacuation of wounded personnel and damaged equipment occurs along lateral supply routes all the way to the main body if that is where the support battalion is located. Otherwise, the evacuation is back along the axis of advance.

(7) **Orientation of Forces.** A unique aspect of the flank guard mission is the orientation of the forces and the direction they may be ordered to screen. While the force maneuvers forward along its assigned axis of advance or zone, phase lines control the movement of the company elements. There should be a phase line on either side of each company's battle position. The battle positions themselves are generally larger than in a purely defensive mission, partly due to the large frontage the battalion must cover. Once an element detects the enemy and companies adopt hasty defensive positions, these phase lines become boundaries for controlling the defensive battle. This gives the battalion commander the option of designating company sectors in addition to the battle positions already identified. Similarly, control of the reserve is accomplished through phase lines and checkpoints regardless of the actual direction of the maneuver. As a minimum, the following control measures are included:

- Phase lines (revert to boundaries on contact).
- Battle positions.
- TRPs.
- Axis of advance.
- Axis of advance of main body.
- Objectives (if used).

7-5. COVER

A covering force, unlike a screening or guard force, is a self-contained force capable of operating independent of the main body. The requirements placed upon the covering force, the command and control structure necessary for the forces involved, and the large areas of operations involved require an adequate level of command for successful accomplishment. The battalion performs screen and guard missions. Covering force operations are normally an armored cavalry regiment mission for the corps. The battalion may participate in a covering force as part of a task-organized SBCT for the division. A covering force, or portions of it, often becomes decisively engaged with enemy forces; therefore, it must have substantial combat power to engage the enemy and still accomplish its mission. Field artillery, engineers, air defense, intelligence resources, and CSS should be planned to support the cover mission.

7-6. AREA SECURITY

Area security operations may be offensive or defensive in nature and focus on the protected force, installation, route, or area. The protected force ranges from echeloned headquarters, artillery units, and reserves to the sustaining base. Protected installations can also be part of the sustaining base or they can constitute part of the area's infrastructure. Areas to secure range from specific points (bridges and defiles) and terrain features (ridge lines and hills) to large population centers and their adjacent areas.

a. **Operations in Noncontiguous Areas of Operation.** Operations in noncontiguous AOs require that commanders emphasize area security. During offensive

and retrograde operations, the speed at which the main body moves provides some measure of security. Rapidly moving units in open terrain can rely on technical assets to provide advance warning of enemy forces. In restricted terrain, security forces focus on key terrain such as potential choke points.

b. **Rear and Base Security.** A commander executes rear area and base security as part of an SBCT's sustaining operations responsibilities or as part of stability operations and support operations. During conventional operations, area security operations are normally economy-of-force measures to ensure the continued conduct of sustaining operations designed to support the SBCT's decisive and shaping operations. All area security operations take advantage of the local security measures performed by all units regardless of their location within the AO.

c. **Civil Considerations.** Since civilians are normally present within the AO, a unit restrains its use of force when conducting area security operations. However, the commander always remains responsible for protecting his force and considers this responsibility when establishing his rules of engagement. Restrictions on conducting operations and using force must be clearly explained and understood by everyone. Soldiers must understand that their actions, no matter how minor, may have far-reaching positive or negative effects. They must realize that either friendly or hostile media and psychological operations organizations can quickly exploit their actions, especially the manner in which they treat the civilian population.

d. **Combat Readiness.** Sometimes area security forces must retain readiness over long periods without contact with the enemy. This occurs most often during area security operations when the enemy knows that he is seriously overmatched in terms of available combat power. In this case, the enemy normally tries to avoid engaging friendly forces unless it is on his terms. Forces conducting area security should not develop a false sense of security, even if the enemy appears to have ceased operations within the secured area. The commander must assume that the enemy is observing his operations and is seeking routines, weak points, and lax security for the opportunity to strike with minimum risk.

7-7. LOCAL SECURITY

Local security includes any local measure taken by units against enemy actions. It involves avoiding detection by the enemy or deceiving the enemy about friendly positions and intentions. It also includes finding any enemy forces in the immediate vicinity and knowing as much about their positions and intentions as possible. Local security prevents a unit from being surprised and is an important part of maintaining the initiative. The requirement for maintaining local security is an inherent part of all operations. Units perform local security when conducting full spectrum operations, including tactical enabling operations. Units use both active and passive measures to provide local security.

a. **Active Local Security Measures.** Active measures include--

- Using OPs and patrols.
- Establishing specific levels of alert within the unit. The commander adjusts those levels based on the factors of METT-TC.
- Establishing stand-to times. The unit SOP should detail the unit's activities during the conduct of stand-to.

b. **Passive Local Security Measures.** Passive local security measures include using camouflage, movement control, noise and light discipline, and proper communications procedures. It also includes employing available ground sensors, night-vision devices, and daylight sights to maintain surveillance over the area immediately around the unit.

7-8. HIGH-VALUE ASSETS SECURITY

The increased number and importance of artillery, aviation, communications, and intelligence acquisition systems has led to increased emphasis on their security. High-value assets (HVAs) may include artillery and air defense radars, multiple launched rocket system (MLRS) units, UAV launch and recovery sites, Patriot batteries, aviation FARPS, C2 nodes, and intelligence acquisition systems.

a. **Types of High-Value Assets.** HVA security missions are not simply additional requirements. They represent an evolution in the way SBCTs, divisions, and corps fight. Systems that acquire and defeat the enemy with precision fires, at vastly extended ranges, are becoming the primary warfighting tools. Missions that provide for their security and facilitate their movement and effectiveness will continue to increase, rather than decrease, in the future. Types of HVAs a battalion could secure include--

- Q36 or Q37 radars.
- MLRS battery or battalion.
- Division or SBCT UAV site.
- Patriot battery.
- Sentinel radars.
- FARPS.

b. **Planning Considerations.** The magnitude of the security requirement for HVAs varies depending on how many missions are assigned to the battalion for security of SBCT, division, corps, and joint task force assets. Generally, these missions are kept to the minimum number possible. When securing HVAs, the commander must address information requirements. Some of the considerations he must address are--

- IP address, frequencies, location, and linkup point of the HVA.
- Routes to be used for reaching the HVA. How many unit AOs must the security force move through and under what conditions?
- Mission and organization assets and movement and positioning plan of the HVA.
- Nature of the enemy threat.
- Can the HVA be detected and targeted with indirect fire? If so, the battalion needs to consider its own survivability and maintain standoff from the HVA.
- Duration of the mission. Who will determine change of mission?
- What other forces are in the area? What base clusters are nearby?
- What are the triggers to leave the security mission and enter the close fight? Is there an implied reserve mission?
- What are the mission and movement plans of the security force parent unit? The security force must maintain an up-dated COP in order to linkup or join the close fight.
- Who is the security force's higher headquarters? What is their IP address, location, frequency, and movement plan?

- What is the logistical support plan for the force? Who provides logistical security? Into whose communication architecture do they plug?
- How will the battalion track its forces assigned to HVA security missions and transition them back into the close fight?

Section II. RELIEF OPERATIONS

A relief is an operation in which one unit replaces another in combat. The incoming unit assumes responsibility for the mission and the assigned sector or zone of action. A relief-in-place may be conducted at any point during offensive or defensive operations. Relief operations are normally executed during limited visibility to reduce the possibility of detection. FBCB2 enhances the planning and execution of relief operations and enhances fratricide avoidance efforts by allowing the commanders to maintain a continuous picture of unit location and disposition. Furthermore, it allows the commanders to expedite forward movement since the relieved force can monitor the progress of the linkup force and provide protective fires or adjust fire control measures predicated on the speed with which the linkup force is moving. To facilitate and ensure successful operations, the linkup and relieved force commanders and staffs exchange as much information as possible to prevent the inadvertent engagement of friendly forces by either direct or indirect fire systems during relief operations. Digitally equipped units can pass this information through an exchange of FBCB2 overlays that clearly define friendly positions, fire support control measures, obstacles, linkup points, and signals. Nondigitized units should exchange this information through liaison personnel and conventional acetate overlays. Collocation of CPs for both type units is recommended.

7-9. PLANNING CONSIDERATIONS

Upon receipt of the order to conduct the relief, the incoming battalion commander and staff establish continuous liaison with the stationary unit through an exchange of liaison personnel or a digital exchange of information pertinent to the relief operations. Commanders and staffs emphasize communications, reconnaissance, and transfer of command. If possible, the incoming unit's CP should collocate with the main CP to facilitate continuous information exchanges relative to the occupation plan, fire support plan, and intelligence updates that include past, present, and probable enemy courses of action. Although digitization allows coordination without physically locating together, face-to-face coordination reduces any potential misunderstandings related to relief preparation or the forthcoming operations. Before contact with the stationary unit, the relieving force digitally receives the maneuver graphics, fire plan, and current enemy situation by way of FBCB2 or MCS overlays. Responsibility for the area is transferred as directed by the senior common commander, normally when the incoming unit has a majority of his fighting force in place and all communications systems (voice and digital) are operating. When planning the relief, the staff determines the most appropriate method for executing the relief by using one of the following methods.

a. **Relieving Units One at a Time.** This method is the most deliberate and time-consuming. It involves sequentially relieving maneuver companies one at a time. Separate routes to the rear of the relieved companies' locations are planned for each maneuver company and placed on the operations overlay. To avoid cluttering the FBCB2 display, only the routes of the relieving force are included on the operations overlay.

Routes are labeled sequentially and correspond to the order in which the company executes them during the relief. When the lead company reaches its release point (RP), its platoons move to the positions they are occupying. Crews exchange range card and fire support information, and the relieved unit then moves to the rear to its next location. When the lead company is in position, the next company moves along its designated route to relieve its counterpart, repeating the relief process. This process repeats until each company has been relieved. If transfer of supplies from the relieved unit is directed, the S4 coordinates a transfer point to execute the exchange.

b. **Relieving Units at the Same Time.** This method is the fastest but risks revealing friendly unit intentions. To expedite the relief, the in-place battalion prepares FBCB2 overlays to depict current friendly graphics, fire support measures, and the latest enemy situation update. They then pass these overlays to the relieving force before the two forces make contact. Once the command groups collocate and exchange plans, relief occurs at the same time at each location. The units of the relieving and relieved battalions execute at the same time a move along different routes. Relieved units withdraw as soon as they are relieved and do not wait for other units of the battalion to be relieved. The control measures at battalion level are identical to those used for a sequential relief (one unit at a time).

c. **Relieving Units by Occupying In-Depth and Adjacent Positions.** This technique requires sufficient terrain to accommodate positioning of two like-sized units at the same time. In this case, the relieving unit must locate where it can observe and provide protective direct and indirect fires for the relieved unit using the relieved units' fire plans. This procedure requires that relieving company and battalion commanders conduct a detailed physical reconnaissance of the position with their counterparts from the in-place unit. They enter information gathered from the physical reconnaissance (for example, BPs, TRPs, and routes into and out of the area) on FBCB2 operations overlays and share them throughout the relieving unit during the planning and preparation process.

7-10. CONDUCTING THE RELIEF

Execution of the relief follows one of the three previous techniques. During the relief, the command group and the staff in the main CP monitor the progress of the relief through FBCB2. To facilitate uninterrupted fires to support the relief, indirect fire assets should be the last units relieved regardless of the relief technique used. Throughout this process, the battalion may have to observe radio-listening silence until control of the position passes to the commander of the relieving force in order to maintain OPSEC. When the companies are set and the relieved unit withdraws from the BP, company commanders send the S3 an FBCB2 spot report (SPOTREP) indicating that the company is defending.

7-11. COMMAND AND CONTROL

If either force gains direct fire contact with an enemy force, it immediately notifies the other unit and the higher headquarters by way of FM voice communications. It then follows this voice report up with an FBCB2-generated contact or SPOTREP so that the precise location of the enemy force (enemy icon) is displayed on FBCB2. If responsibility for the sector has not passed, the relieving unit becomes OPCON to the relieved unit. The assets and staff of the relieved unit become OPCON to the relieving unit when the responsibility for the sector has passed to the relieving battalion.

Section III. BATTLE HANDOVER AND PASSAGE OF LINES

Battle handover is a coordinated operation executed to sustain continuity of the combined arms fight and to protect the combat potential of both forces involved. Battle handover is usually associated with the conduct of a passage of lines.

7-12. BATTLE HANDOVER

Battle handover may occur during either offensive or defensive operations. During defensive operations, it is normally planned and coordinated in advance to facilitate execution and usually involves a rearward passage of lines. In the offense, it is situation-dependent and often initiated by a FRAGO. Battle handover normally occurs in the offense when one unit passes through or around another unit. Tactical and digital SOPs containing clear, simple, standardized procedures and control measures enhance a unit's ability to coordinate and synchronize actions quickly without experiencing a corresponding loss in momentum.

a. Battle handover occurs along a line forward of the stationary force. The SBCT commander establishes this line in consultation with both stationary and passing battalion commanders. The stationary battalion commander normally determines the battle handover line location. This line could be forward of the FEBA in the linear defense (or the FLOT in the linear offense), or it could be a line determined by the common controlling headquarters in a nonlinear environment. The BHL is located where elements of the passing battalion can be effectively overwatched by direct fires or supported by indirect fires of the forward combat element of the stationary battalion until the battle handover is complete.

b. Physical handover normally occurs in the battle handover zone. Events may dictate that a force break contact forward of or behind the BHL (for example, when there is a gap between echelons of the attacking enemy force). Close coordination (physical, digital, or by FM voice) between the battalions involved in the handover allows them to coordinate and execute this process at the small-unit level.

c. The battle handover operation begins on order of the higher headquarters commander of both units involved or when a given set of conditions occurs. Defensive handover is complete when the passing battalion is clear and the stationary battalion is ready to engage the enemy. These actions may occur at the same time. Offensive handover is complete when the passing battalion crosses the BHL. The BHL is normally considered the LD for the attacking battalion. Until the handover is complete and acknowledged by the commanders, the battalion commander in contact is responsible for the fight.

d. Coordination for battle handover flows from the battalion commander out of contact to the battalion commander in contact. The coordination for a battle handover overlaps with the coordination for a passage of lines; the coordination for both should be accomplished at the same time. The TSOP should outline these coordination requirements to facilitate rapid accomplishment.

e. Digital systems assist the battalion staff in its coordination and synchronization efforts for the operation. Each unit transmits or delivers a complete copy of their OPORD and overlays by either digital (FBCB2) or conventional (hardcopy and acetate overlay) means. Any changes made after initial distribution are updated immediately. The coordination effected between the two commanders includes--

- Establishing digital and FM voice communications.
- Providing updates of both friendly and enemy situations (digital, voice, and graphical).
- Coordinating passage points and routes and ensuring these are displayed on operational overlays (digital and conventional).
- Collocating C2 and exchanging liaison personnel (if required).
- Coordinating fires and fire control measures (direct and indirect) and ensuring these are displayed on operational overlays (digital and conventional).
- Determining the need for and dispatching contact point representatives.
- Establishing and coordinating recognition signals (conventional).
- Exchanging locations of obstacles and related covering fires.
- Exchanging route information to include waypoints.
- Determining CS and CSS requirements.

f. Due to the fluid nature of a battle handover, digital coordination may be too difficult to accomplish. Commanders determine whether they can use digital systems to speed the planning, coordination, and execution processes. FM voice may be the most prudent method of coordinating and executing battle handovers.

7-13. PASSAGE OF LINES

A passage of lines is the coordinated movement of one or more units through another unit. It is normally conducted when at least one METT-TC factor does not permit the bypass of a friendly unit. A passage of lines is a complex operation requiring close supervision and detailed planning, coordination, and synchronization between the battalion commanders of the unit conducting the passage and the unit being passed. The primary purpose of a passage of lines is to transfer responsibility for an area from one unit to another. The battalion or its subordinate units execute a forward or rearward passage of lines (Figures 7-2 and 7-3, page 7-14). A passage of lines may be conducted to--

- Continue an attack or counterattack.
- Envelop an enemy force.
- Pursue a fleeing enemy.
- Withdraw covering forces or MBA forces.

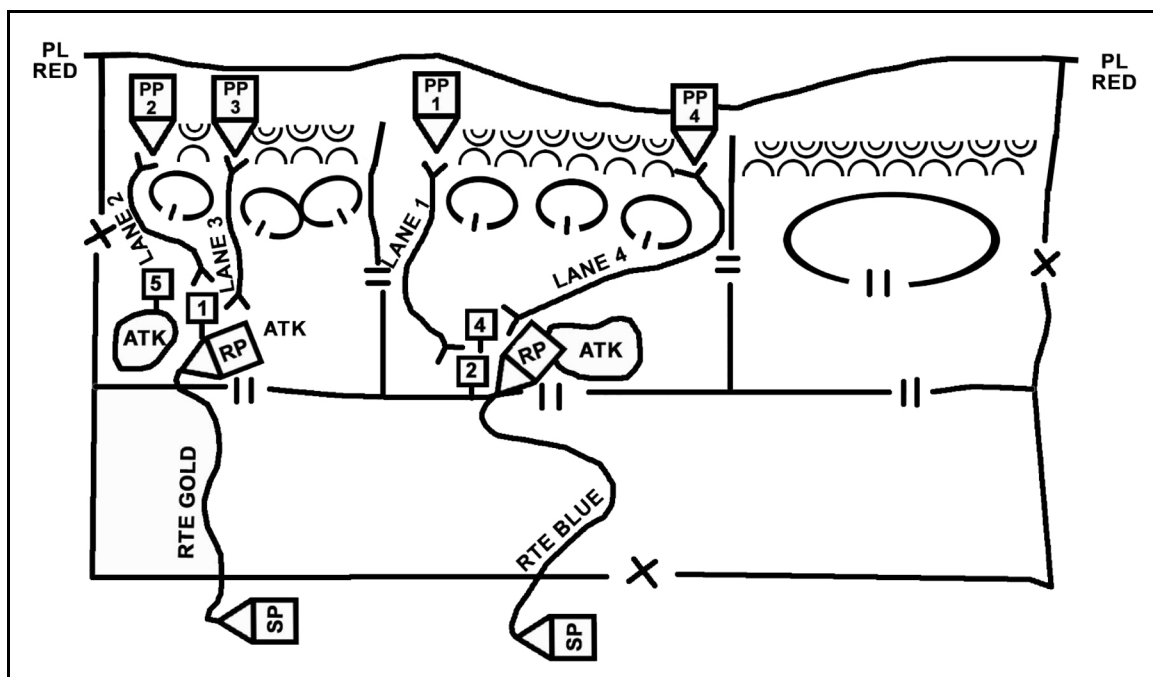


Figure 7-2. Forward passage of lines.

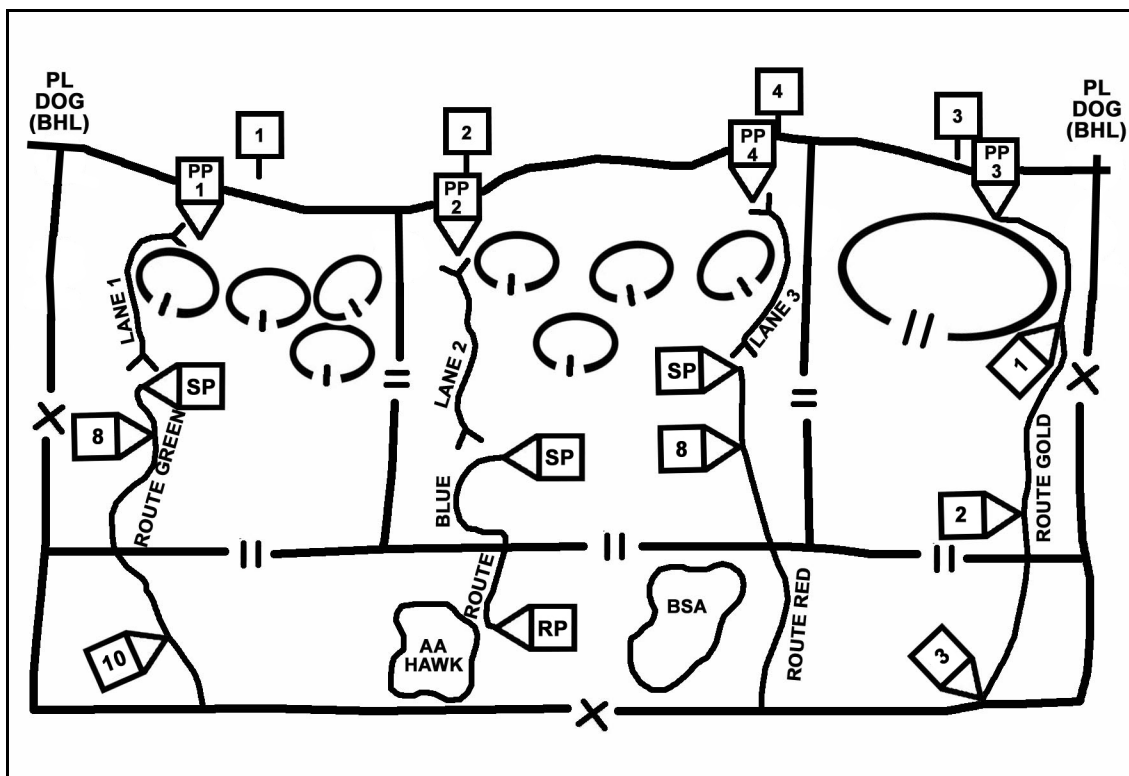


Figure 7-3. Rearward passage of lines.

a. **Planning.** The division or SBCT plans and conducts a battalion passage of lines. Units involved in a passage of lines must conduct detailed coordination to ensure they maintain positive control to avoid fratricide, speed the passage, and reduce vulnerability to enemy attack. The battalion S2 and staff conduct the IPB, and the S3 prepares his tentative plan based on stationary force restrictions, the IPB, and parameters established by the battalion commander. The S3s of the passing battalion and the stationary battalion coordinate routes, checkpoints, linkup points, and passage points via FCB2 or conventional means. Planners must evaluate the following basic considerations and integrate them into the planning process.

(1) **Terrain Management and Control Measures.** Terrain management is critical to successful completion of a passage of lines. Terrain is controlled through the sharing of digital overlays that contain--

- Routes (primary and alternate).
- Checkpoint data.
- Friendly and enemy unit locations and status.
- Passage points.
- Fire support control measures.
- Obstacle types and locations.
- CSS locations and descriptions.

(2) **Liaison.** Stationary and passing battalions exchange information by way of extensive and detailed coordination and liaison before mission execution.

(3) **Communications.** Communication architectures, digital systems, communications security (COMSEC), recognition signals, and communication procedures and

requirements must be identified, synchronized, and integrated into the OPLAN. Communication ensures units share a common tactical picture of the battlefield and pertinent combat information and maintain a common relevant picture.

(4) **Mission Transition.** Plans for the conduct of the passage must facilitate transition to the subsequent missions of both the passing and stationary battalions.

(5) **Exchange of Zone or Sector Control.** Control of the zone or sector passes from one battalion to the other at a time and place directed by the higher common commander or as mutually agreed upon by the stationary and passing battalion commanders.

(6) **Routes.** The passing battalion moves on multiple routes through the passed battalion and avoids the use of assembly areas. It does not halt within the passed battalion's forward positions.

(7) **Employment of Deception and Smoke.** Deception and smoke operations can deceive the enemy as to actual unit locations and passage points.

(8) **Control Measures.** Establish graphic control measures to ensure positive control of both the stationary and passing units.

(9) **Location of Stationary Battalion and Obstacles.** The location and obstacle emplacement of the stationary battalion may impact planning and execution of the forward passage of lines.

(10) **Mobility and Countermobility Operations.** Mobility and countermobility operations are of major concern and must be evaluated to ensure that existing obstacles do not hinder the maneuver of the passing unit during the passage of lines.

NOTE: The terrain and number of the passage lanes determine the speed and disposition of the passing battalion as it crosses the LD. When conducting a forward passage in preparation for a deliberate attack, it may be important to create passage lanes with sufficient width to allow the passing force to move in a tactical formation appropriate to the operation, such as company or platoon wedge.

b. **Fire Support.** The battalion FSO reviews the fire support plan of the stationary unit and conducts direct coordination to ensure that a clear understanding exists between the passed and passing units on the established FSCMs. He does so through the transfer of digital fire support overlays between the two FSEs via advanced field artillery tactical data system (AFATDS). Procedures to establish fire support battle handover or transfer of control are also identified and approved by the maneuver commander. Terrain and route management for artillery batteries and their support assets are especially important due to potential terrain limitations. All artillery units, to include reinforcing and general support reinforcing units, must be positioned to support the passage if enemy contact is possible during the operation.

c. **Engineers.** A passage of lines may require either the reduction of some obstacles or the opening and closing of lanes through friendly obstacles. The passing battalion engineer must coordinate with the stationary unit engineer via digital means or face-to-face meeting. As a minimum, this coordination must address the following:

- Location and status of friendly and enemy tactical obstacles.
- Routes and locations of lanes and bypasses through friendly and enemy obstacles.

- Transfer of obstacle and passage lane responsibilities.

d. **Air Defense Artillery.** During the conduct of a passage of lines, units participating in the operation present a lucrative target for air attack. The passing commander coordinates ADA protection with the stationary force commander for ADA coverage during the passage of lines. This method allows the passing force's supporting air defense assets to conduct a move at the same time. If the passing force requires static air defense, then it must coordinate the terrain with the stationary battalion's S3. To ensure the passing force's ADA assets are incorporated into the stationary force's air defense early warning net, the stationary force uses forward area air defense command, control, computers, and intelligence (FAADC3I) for ADA coordination. If the stationary battalion is not equipped with FAADC3I or Sentinel radars, commanders should consider positioning these assets in the stationary battalion area to provide more effective early warning and air defense.

e. **Combat Service Support.** The CSS plan is integral to a successful passage of lines. CSS assets are positioned to support the passage. UMCPs and emergency refueling points are positioned where they can best keep lanes open and vehicles moving. Figure 7-4 shows the CSS plan for a rearward passage of lines.

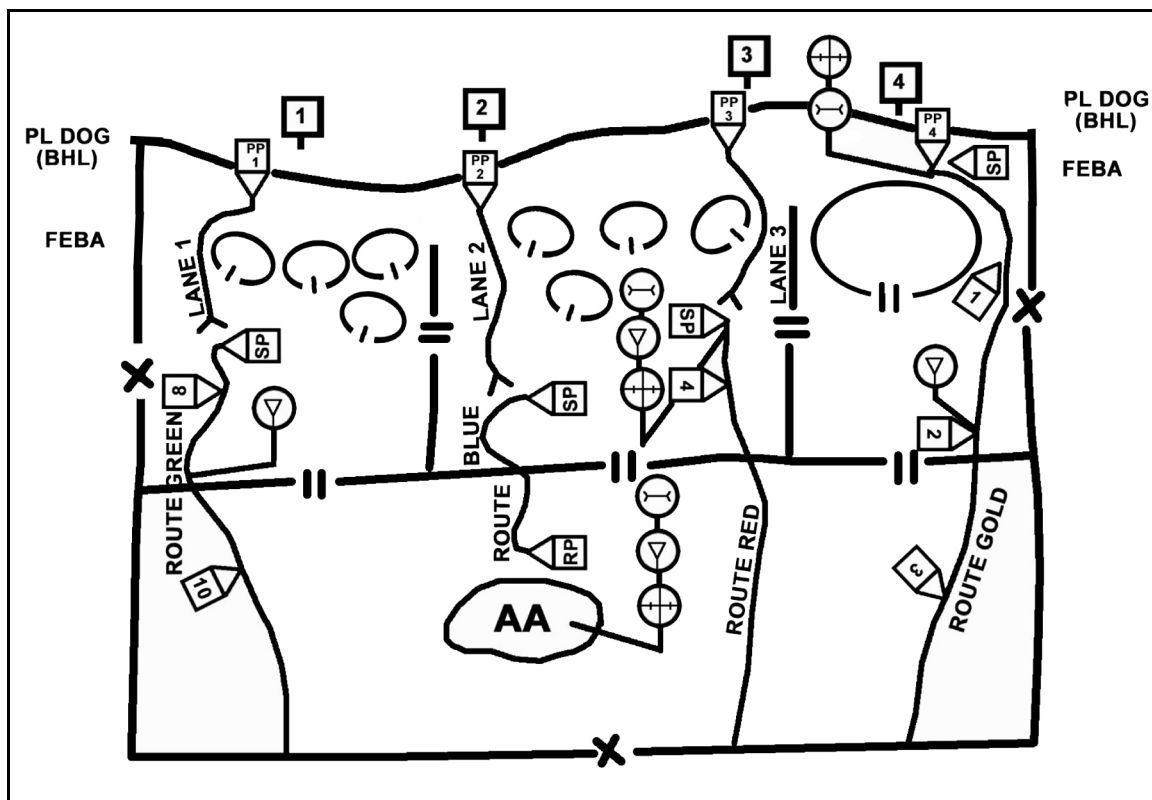


Figure 7-4. Combat service support plan for rearward passage of lines.

7-14. FORWARD PASSAGE OF LINES

In a forward passage of lines conducted as part of an attack, both the stationary and passing battalion commanders must be aware of the passing battalion's objective. This awareness is especially important if the stationary battalion must provide supporting fires. The stationary battalion and forward passing unit share data needed to effect a passage of lines in a timely and safe manner.

a. On receipt of an order, the passing battalion commander begins preparing his passage of lines plan by conducting a reconnaissance while concurrently updating the information received from the stationary battalion. For example, the passing battalion receives an FBCB2 operations overlay that delineates routes to the contact points as well as the location of the actual linkup site. The battalion commander and staff of the passing unit meet representatives from the stationary battalion at designated contact points to conduct coordination. During the physical reconnaissance, the S3 from the passing battalion updates the initial operations overlay, incorporating information received from the stationary battalion by adding pertinent control measures. Upon completion, the S3 forwards this overlay to the main CP. Based on this information, the staff completes development of the plan. Once approved by the commander, additional control measures are added to the operations overlay as necessary to complete the plan.

b. The main CP forwards the validated operations overlay update from the stationary and passing battalion, SBCT, and subordinate units to the liaison teams. This technique allows the S3 and battalion commander to develop their scheme of maneuver for the passage of lines on a digital overlay concurrent with reconnaissance. At the conclusion of the reconnaissance and subsequent coordination with the stationary battalion, the revised battalion plan is distributed digitally by way of FBCB2 to subordinate units and higher headquarters.

7-15. REARWARD PASSAGE OF LINES

Typically, a rearward passage of lines occurs within a defensive framework in which elements of the covering force operate forward of the MBA. MBA forces are the stationary unit in a rearward passage of lines. The covering force withdraws through them, handing off control of the fight at the battle handover line.

a. To facilitate a rearward passage of lines, the stationary force commander designates--

- The battle handover line.
- Contact points forward of the BHL.
- Passage points along the FEBA.
- Lanes to the rear of the MBA.

b. Once he prepares the overlay, the stationary commander transmits it and any amplifying information to the passing force commander by way of FBCB2.

c. During a passage of lines, unit density in a relatively small maneuver space may cause problems in the ability of the commanders to maintain an up-dated COP in relation to both the passed and passing units. The stationary and passing commanders should determine the best method of exercising C2 to avoid slowing the tempo of the operation and to reduce fratricide potential.

7-16. REHEARSAL

During the rehearsal for a passage of lines, the battalion commander ensures that each organization knows when and where to move as well as how to execute the required coordination. Digital communications checks ensure connectivity and interoperability. Other rehearsal items include--

- Fire support observation plan, target execution, communication linkages, and mutual support operations. Confirm fire support control measures. Review unit routes and positioning.
- Locations and descriptions of obstacles, lanes, bypasses, and markings. Confirm locations of any engineer stockpiles.
- Air defense weapons locations, early warning communications, air threat, and weapons control status.
- Passage points, routes, and recognition procedures. Confirm these and review numbers of vehicles by type expected at each passage point. Rehearse route management, contact points, and use of guides.
- Locations for and movement of CSS units. Rehearse these, along with mutual support arrangements and any transfer of supplies.
- Locations of aid stations, ambulance exchange points, and casualty evacuation procedures (rehearse these).

Section IV. LINKUP OPERATIONS

Linkup operations, which join two or more friendly forces, are conducted to--

- Complete the encirclement of an enemy force.
- Assist breakout of an encircled friendly force.
- Join an attacking force with a force operating in the enemy's rear area.
- Make contact with other forces on a noncontiguous battlefield.

Before commencing a linkup operation, the headquarters elements of the stationary force and linkup force must share information including COMSEC procedures and digital graphic overlays consisting of--

- Primary and alternate linkup points.
- Checkpoint and waypoint information.
- Unit disposition and activity (friendly and enemy).
- Locations and types of obstacles.
- Fire control measures including RFLs.

7-17. CONTROL

The stationary and linkup force must maintain positive control during linkup operations to prevent inadvertent fratricidal engagements. They use FBCB2 and FM voice systems as required to share combat information and to identify friend from foe positively. It is imperative that both the linkup and stationary units conduct precombat communications checks before the operation begins to ensure that connectivity and interoperability between digital systems is established and maintained.

a. The S6s of the two linkup units are integral to successful linkup operations when both units are digitally equipped. These officers must ensure that units address both primary and alternate forms of communication during planning and that they synchronize

both manual and digital systems used in support of the linkup operation and integrate these into the linkup plan.

b. Special requirements related to digital operations must be identified. The following are examples:

- Exchange of unit IP address databases.
- Single channel ground and air radio system (SINCGARS) and enhanced position location reporting system (EPLRS) hop set data.
- COMSEC requirements.
- Positioning of EPLRS position server links.
- Modifications to digital communications structure.

7-18. FORMS OF LINKUP

Linkup operations take one of two forms: linkup of a moving force and a stationary force or linkup of two moving forces.

a. **Linkup of a Moving Force with a Stationary Force.** To ensure the forces join without engaging one another, linkup points are selected at locations where the axis of advance of the linkup force intersects the security elements of the stationary force (Figure 7-5, page 7-20). These points must be readily recognizable to both forces and should be posted on both digital overlays and conventional maps in case of digital communication loss. Alternate points are chosen so the units are prepared in case enemy activities cause linkup at places other than those planned. The number of linkup points selected depends on the terrain and number of routes used by the linkup force.

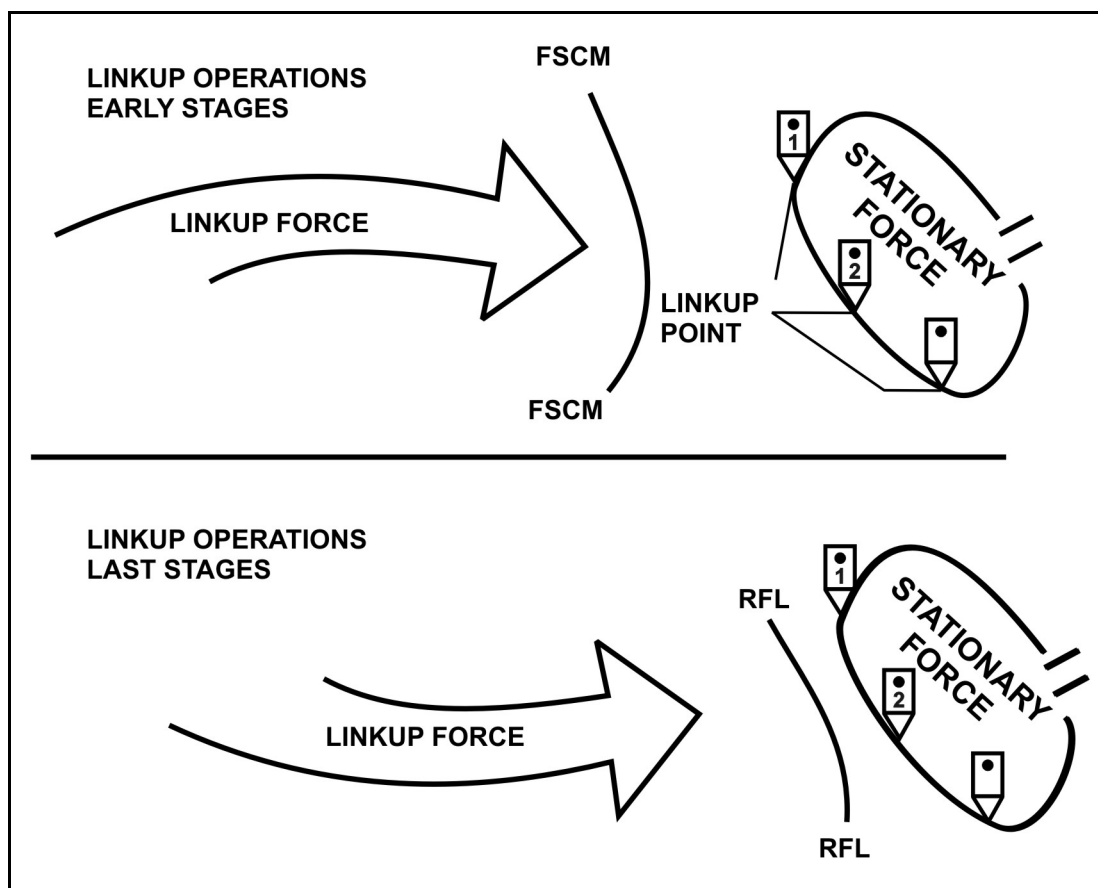


Figure 7-5. Linkup of a moving force with a stationary force.

(1) The communications section is critical to linkup operations. Digital communications are used to transmit and share the COP. However, use of digital means depends on METT-TC factors and the ability to maintain digital linkages between the moving unit and stationary unit.

(2) To facilitate a rapid passage of lines and to avoid inadvertent engagement of friendly forces, personnel in the linkup force must be thoroughly familiar with recognition signals and plans. As required, stationary forces assist in the linkup by opening lanes in minefields, breaching or removing selected obstacles, furnishing guides, providing routes with checkpoints, and designating assembly areas.

(3) When linking up with an encircled force, the battalion carries as much materiel as possible during the linkup operation. This materiel includes Classes I, III, V, and VIII. If an enemy force has encircled the stationary force, the battalion carries additional supplies and materiel requested through to the SBCT S4 and BSB before the linkup takes place. The battalion S4 ensures that each company has received the FBCB2 CSS overlay depicting MSRs, traffic control points, AXP, and UMCPs.

b. **Linkup of Two Moving Units.** Linkup between two moving units is one of the most difficult operations (Figure 7-6). It is normally conducted to complete the encirclement of an enemy force. Primary and alternate linkup points for two moving forces are established on boundaries where the two forces are expected to converge. As linking units move closer, positive control is coordinated to ensure they avoid firing on

one another and to ensure the enemy does not escape between the two forces. Again, using digital systems facilitates planning, synchronization, execution, and fratricide avoidance.

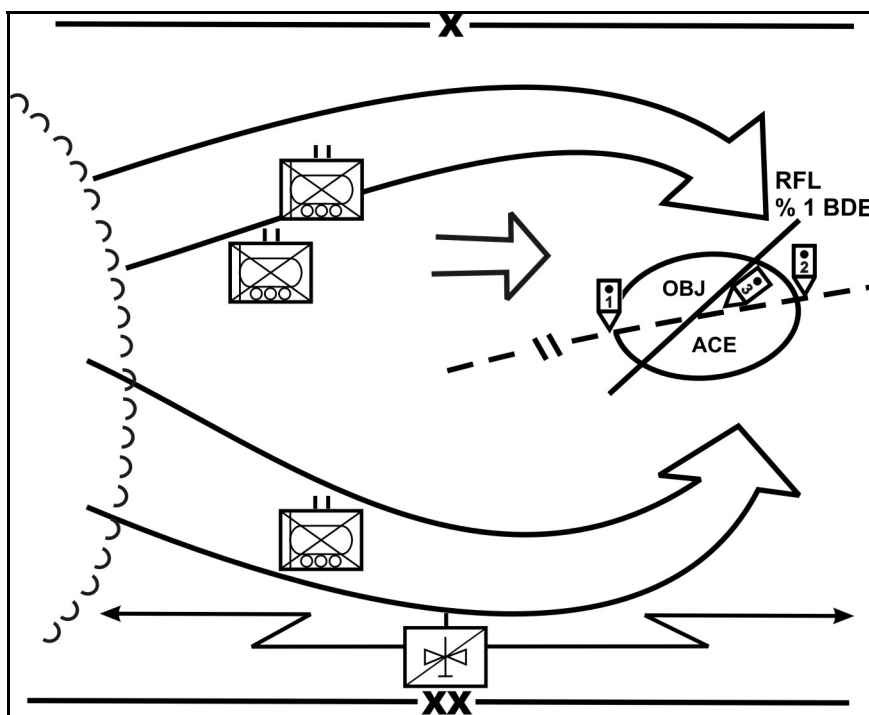


Figure 7-6. Linkup of two moving units.

c. **Actions Following Linkup.** When the linkup is complete, the linkup force may join the stationary force, pass through the stationary force, go around the stationary force, or continue the attack.

(1) If the linkup force is to continue operations with the stationary force, a single commander for the overall force is designated. Objectives for the linkup provide for dispersion in relation to the stationary force. The linkup force may immediately pass through the perimeter of the stationary force, be assigned objectives within the perimeter, or be assigned objectives outside the perimeter, depending on the mission.

(2) When the SBCT directs a linkup operation, it normally establishes a restricted fire line for both battalions to ensure positive control and reduce the risk of fratricide. It transmits these RFLs to both units by way of a digital overlay, and they are subsequently adjusted and overlays updated as one force moves toward the other. This process continues until a single RFL is established between the forces. Usually, this is the point on the ground where the two forces plan to establish contact.

d. **Planning.** The linkup is a complex operation requiring detailed planning and coordination. Plans for a linkup are coordinated as far in advance as possible. The two forces carefully define and coordinate their schemes of maneuver with certain attention given to graphic control measures, communications, and the subsequent mission to be performed by each force after linkup operations are completed. Alternate linkup points are planned and lend flexibility to the overall operation.

(1) The two units establish liaison during planning and continue it throughout the operation. Liaison parties must have the capability to communicate digitally with their parent unit through the tactical internet (TI). As the distance closes between the forces, the requirement to track movement through FBCB2 and maintain close liaison increases. Use of Army aircraft can improve and expedite this process.

(2) Linkup operations frequently require a passage of lines. Once through friendly lines, the battalion moves out as in an exploitation to effect the linkup. Speed, aggression, and boldness characterize this action. If possible, the linkup force avoids enemy interference with its mission and concentrates its efforts on completing the linkup. If enemy forces threaten the successful accomplishment of the mission, they are either destroyed or bypassed and reported.

(3) The headquarters directing the linkup operation must establish command relationships and responsibilities for the forces involved. Both the linkup force and the force with which linkup is to be made can remain under control of the directing headquarters. Operational plans must prescribe the primary and alternate day and night identification and recognition procedures, vehicle systems, and manmade materials used to identify friend from enemy.

(4) The communication plan includes all essential frequencies, secure variables, IP addresses, and communication needlines to maintain communication between the two forces.

(5) Logistical support requirements may be greater during linkup operations than during other offensive actions. Additional considerations for planning logistical support in linkup operations include--

- Resupply of stationary unit.
- Fuel requirements.
- Duration the objective is to be held (METT-TC).
- Operations after the linkup is completed (for example, attack, withdraw, or defend).
- Transportation requirements for special purpose forces (for example, air assault and special operation forces).
- Line of communication (LOC) security requirements.

(6) Supply requirements for a linkup operation may exceed the transportation capability of the battalion. The battalion may have to request additional vehicles from higher headquarters, Army aviation support, or both.

(7) In linkup operations involving airborne and air assault units, the units assaulting the objective area have priority for supply by air. Supplies for the ground linkup forces normally move by land transportation. However, when the linkup and an airborne or air assault force plan to defend the objective area jointly, supplies for the linkup force may be flown into the objective area and stockpiled.

(8) Evacuation of equipment, WIAs, and EPWs may create major problems for the linkup force. If supply routes are open, normal evacuation procedures apply. When ground routes are not secure, helicopters are used for the evacuation of casualties and prisoners. Damaged equipment may be moved forward with the linkup forces until it can be evacuated at the first suitable opportunity.

e. **Preparation.** Due to the time-sensitive nature of linkup operations, the commander issues his order digitally. If time is available, he conducts a rehearsal at

higher headquarters. If time is not available, the commander walks the linkup commander through the operation. He stresses the linkup and coordination required to reduce the potential for fratricidal engagements between the linkup forces. In addition, he ensures that each battalion commander is prepared to respond to an enemy meeting engagement or attack before the linkup. The battalion FSO is an integral member of the team that plans linkup operations. He is responsible for the coordination, synchronization, dissemination, and monitoring of the fire support plan and FSCMs. He is also accountable for the conditions and methods for changing the fire support plan or control measures.

f. **Execution.** Depending on the enemy situation and METT-TC, the initial conduct of the linkup operation may be identical to an exploitation or attack. During the operation, the SBCT commander monitors the progress and execution through the COP to ensure that the established positive control measures are followed or adjusted as required. Adjustments made to the OPLAN are coordinated and synchronized by way of digital systems. If a FRAGO is passed by FM voice, a digital follow-up is entered and transmitted through FBCB2 to ensure all units are aware of the change. The following discusses the digital procedures that may be used when friendly forces are conducting a linkup.

(1) As the linkup forces begin their maneuver, they establish digital and FM voice communications and maintain them throughout the operation. As each force maneuvers, progress is tracked by way of FBCB2, and adjustments to the linkup plan are made as METT-TC dictates. For example, if two forces are involved in the operations and one is unable to travel at a speed commensurate with the plan, the linkup location may require adjustment.

(2) In nondigitized units, as the linkup forces near each other, the speed (momentum) of the operation may be slowed to maintain positive control and to prevent fratricide. In this case, commanders must be vigilant and ensure enemy forces do not slip between the two closing forces. Momentum of a linkup operation should not slow for the digitized battalion since the maneuver and movement of all forces can be tracked by way of FBCB2 and the C2 INFOSYS.

(3) The battalion FSE changes or activates the FSCMs established for the operation based on the progress of the forces and the enemy situation. All changes are provided to the FSEs of the maneuver units involved in the linkup through FBCB2 or AFATDS. As the maneuver units draw closer to one another, coordinated fire lines (CFLs) are canceled and an RFL is placed into effect to prevent fratricide between the converging forces. Once the linkup has occurred, fire support for the battalion is organized as per the higher headquarters plan for future operations.

(4) The battalion commander positions himself to observe the progress of the operation and maintains both digital and FM voice communications with the S3. The commander of a digitized battalion is more flexible in positioning since he can maintain a composite picture of the progress of both maneuver units digitally and adjust the linkup plan as required. The battalion S3 is positioned based on the operational concerns expressed by the battalion commander. For example, if a certain flank is of concern to the commander during the operation or a supporting attack is required to penetrate the enemy's lines, then the battalion S3 locates where he can best observe the battalion's secondary action.

Section V. RIVER CROSSING OPERATIONS

There are three types of river crossing operations: hasty, deliberate, and retrograde. Battalions do not make deliberate or retrograde crossings independently; these are centralized operations where the controlling echelon is a division or SBCT. (For a detailed discussion of these operations, see FM 90-13.)

7-19. GENERAL CONSIDERATIONS

Battalions routinely make hasty crossings and reorganize in order to maintain the momentum of operations. The COP reduces uncertainty about the enemy and friendly situation, enabling the battalion to move rapidly to undefended or lightly defended crossing sites where it uses all available means to push its companies across the river and onto objectives on the far side.

a. A hasty river crossing is a continuation of an attack across the river with no intentional pause at the water to prepare so that there is no loss of momentum. This technique is possible when enemy resistance is weak and the river is not a severe obstacle.

b. Battalions cross in their respective zones at multiple points and as quickly as possible. The battalion may require the use of organic, existing, or expedient crossing means. Additional support from the division or corps may be necessary if bridging requirements exceed the capability of engineers augmenting the battalion. Bridge companies are controlled at corps level. Their support is available only when headquarters have taken purposeful action to position the assets at the right time and place to assist a battalion's hasty crossing. The battalion must coordinate for support through the SBCT early in the planning process.

c. Small gaps, streams, and small rivers that prohibit vehicles from advancing are encountered more frequently than large gaps and rivers that require extensive bridging. When terrain or enemy conditions dictate, each battalion should request organic mobile crossing assets that enable it to install bridges quickly, cross small gaps, and recover the bridges for future crossings. Follow-on bridges, such as the medium-girder bridge (MGB), may need to be positioned at these gaps before assault bridges are removed so that following forces and support units can maintain the pace of the battalion. The two types of hasty crossings are dry-gap and wet-gap crossings.

(1) **Hasty Dry-Gap Crossing.** Antitank (AT) ditches and craters are normally what battalions encounter as a dry-gap obstacle. Dry riverbeds may also present a crossing problem to vehicles. The battalion may use expedient crossing means if they are readily available and can be transported to the crossing site. Reconnaissance elements should note material or existing features that can be used as expedient crossing devices. These include culvert pipe, lumber or cut timber, and war-damaged equipment. The pipe fascines system, which consists of bundles of 8-inch, high-density plastic pipes chained together, can fill gaps up to 9 meters deep and support up to 70 tons. The SBCT has four organic, rapidly emplaced bridge systems (REBSs), each capable of spanning 13 meters and crossing up to military load class 30 vehicles. REBSs should be left in place across the gap only as long as it takes to cross the battalion and then replaced with other fixed bridging if necessary or available.

(2) **Hasty Wet-Gap Crossing.** Bank conditions, the depth and width of the wet gap, and the current velocity determine whether the battalion can cross its vehicles by fording and whether other bridging assets are required. Identifying wet gaps early and deploying the required resources allow hasty crossings of known or anticipated gaps to occur.

(a) Because vehicles drain rapidly when exiting, initially firm banks tend to deteriorate rapidly from multiple uses of the same exit point. The existence of mud or surface irregularities further degrades the percent of the slope that vehicles can overcome. When selecting a fording site in a wet-gap crossing, the depth of the water is the most significant factor. The depth of the water in one crossing area may change due to bottom surface mud or irregularities (boulders and potholes).

(b) If possible, the battalion crosses the water obstacle at multiple points across a broad front by fording mounted or dismounted forces. It makes the crossing as soon as its elements reach the obstacle. As the bulk of the battalion crosses the water, minimum forces remain to secure the crossing sites.

(c) As with a hasty dry-gap crossing, the battalion may use expedient crossing means if they are readily available and can be transported to the crossing site. Reconnaissance elements should note material or existing features that could be used as expedient crossing devices. These include culvert pipe, lumber or cut timber, or war-damaged equipment. The pipe fascines system, which consists of bundles of 8-inch, high-density plastic pipes chained together, can fill gaps up to 9 meters deep and support up to 70 tons.

(d) A well-practiced SOP reduces the necessary planning and preparation time. A concise order clearly articulating the commander's intent allows exploitation wherever subordinate units successfully force a crossing. When possible, advance elements seize existing crossing means intact and ahead of the main body.

(e) When facing negligible or light enemy resistance on both banks, the force does not have to clear all enemy forces from the river to conduct a hasty crossing. It capitalizes on the speed of the crossing and the limited ability of the enemy to oppose the crossing effectively.

7-20. ASSAULT OF THE CROSSING SITE

A battalion assault across a river normally begins with an attack to secure terrain on the exit bank. This may involve an air assault by dismounted infantry elements, an assault crossing using pneumatic boats, or an infiltration by swimming or rope bridges. Regardless of crossing technique, the dismounted elements constitute the battalion's assault force.

a. **Air Assault Crossing.** An air assault is the fastest and most preferred crossing method. The following considerations apply when planning an air assault as part of the battalion river crossing. (Refer to Appendix I, Air Assault Operations, and FM 90-4 for detailed discussion of air assault operations.) Helicopters--

- Require indirect approaches to avoid detection.
- Provide the element of surprise.
- Give greater flexibility for emplacement of personnel and equipment.
- Provide the rapid insertion of forces into the area where the enemy is located, if an LZ is available.
- Are greatly affected by weather conditions.

- Must be a high air defense (AD) priority at the river, requiring suppression of enemy AD effort.
- Require the separation of troops from their vehicles and equipment.
- Are vulnerable to armored counterattacks and require a quick ground linkup.

b. **Rubber-Boat Crossing.** The following considerations apply when using rubber boats in an assault crossing. Rubber boats--

- Offer great opportunity for surprise in a silent-paddle crossing.
- Are a relatively fast means of crossing, especially when using outboard motors.
- Maneuver well in the water.
- Require limited, if any, entry-bank preparation and no preparation on the exit bank.
- Require the separation of troops from their vehicles and heavy equipment.
- Have limited carrying capacity, particularly AT weapons.
- Provide limited protection, mobility, firepower, and communications on the exit bank.

c. **Organization for Boat Crossing.** The specific organization used for a boat crossing depends on METT-TC factors, particularly the size of the bridgehead, the distance to exit-bank objectives, and the nature of the enemy's defense. Regardless of these factors, the battalion organizes into support and assault forces and is assisted in the assault by other units in support-by-fire positions.

(1) **Support Force.** The support force is normally the MGS and ICV of the company whose dismounted infantry is conducting the assault crossing. This force establishes a support-by-fire position along the friendly bank before the assault. It uses night vision and thermal sights to locate enemy positions. It also develops a fire plan to engage these positions and to provide suppressive fires on all suspected positions. When directed to engage, the support force destroys all known and suspected positions. The assault force commander (usually the battalion commander) directs the support force commander (usually the XO) to lift or shift suppressive fires as necessary. Supporting artillery and the mortar platoon provide indirect fire support and effects.

(2) **Assault Force.** The first assault wave moves the force across covertly. This force attempts to provide sufficient security on the far shore so that the second and later assault waves can cross if surprise is lost. Each assault company receives engineers that accompany the assault force to its objective, helping it fight through obstacles and prepared defenses. The engineers help the assault force establish hasty defenses after it has seized its objectives. The first assault wave carries--

- Rifle platoons.
- Attached assault engineers.
- Forward observers.
- The command group.

(a) **First Assault Wave.** The organization of the first wave permits rapid deployment of the force into a tactical formation on the far shore. Individual boatloads retain unit integrity at the lowest level. The two basic boatload configurations are the rifle squad boat and the rifle platoon headquarters boat.

- The first wave of the assault may consist of three company flotillas crossing on line. Battalions do not have a prescribed crossing formation. Each company crosses in its own zone and attacks its own objectives.
- Platoon boat groups form into company flotillas. The company commander commands the guide boat in the center platoon. The company command group disperses between boats, filling in vacant boat positions.

(b) *Second Wave.* The second wave carries company aid stations and may include the battalion command group. If sufficient AD systems are in place to cover the crossing area, the SBCT may release some of the augmenting AD teams to cross in the second wave as man-portable air defense (MANPAD) teams. The second wave also transports additional material and ammunition that is not required for the initial assault but is necessary to establish a defense. This may include antiarmor weapons, mortars, ammunition, laser designators, mines, or pioneer tools.

(c) *Subsequent Waves.* The immediate movement of some AT weapons across to support the assault element is essential if an armor threat exists. As vehicles carry all heavy AT weapons, engineers concentrate on moving antiarmor systems or vehicles carrying heavy weapons across immediately after the second wave. Engineers begin bank preparations on both the near and far shore, using hand tools and heavy equipment where possible. They may deep ford a bulldozer to get a winch capability to the far shore. If necessary, ICVs can ford with towing assistance. If absolutely necessary, rafting can be used, but this is a high-risk operation and is vulnerable to enemy indirect and direct fire systems. (For a detailed description of assault crossing techniques and procedures, see FM 90-13.)

Section VI. COMBINED ARMS BREACHING OPERATIONS

Obstacle breaching is the employment of a combination of tactics and techniques to project combat power to the far side of an obstacle. Breaching is a synchronized combined-arms operation under the control of a maneuver commander. Breaching operations begin when friendly forces detect an obstacle and initiate breaching fundamentals; they end when the enemy is destroyed on the far side of the obstacle or battle handover has occurred between a unit conducting the breaching operation and follow-on forces. Breaching is an inherent part of maneuver. Effective breaching operations allow friendly maneuver in the face of obstacles.

7-21. BREACH TENETS

Successful breaching operations are characterized by the application of breach tenets. These tenets are applied whenever an obstacle is encountered, whether friendly forces are conducting an attack or route clearance operations. The breach tenets are--

- Intelligence.
- Breaching fundamentals.
- Breaching organization.
- Mass.
- Synchronization.

a. **Intelligence.** Critical to a commander's success is the ability to identify how the enemy applies obstacles to the terrain. The commander and staff conduct intelligence preparation of the battlefield to develop initial SITEmps and priority intelligence

requirements. Intelligence gathered by reconnaissance forces is essential to developing a finalized SITEMP and final point of breach locations. Unverified enemy SITEMPs may cause friendly forces to deploy to reduce obstacles early, waste mission time attempting to locate non-existent obstacles, develop COAs using ineffective obstacle reduction methods, or become surprised by an obstacle. Augmentation of reconnaissance forces by engineer squads or sections may be utilized as part of the overall ISR plan. Examples of obstacle intelligence (OBSTINTEL) requirements include--

- Location of existing or reinforcing obstacles.
- Orientation and depth of obstacles.
- Soil conditions (determines ability to use mineplows).
- Lanes or bypass locations.
- Composition of minefields (buried or surface laid antitank and antipersonnel (AP) mines).
- Types of mines and fuzes (determines effectiveness of mechanical or explosive reduction techniques).
- Composition of complex obstacles.
- Location of direct and indirect fire systems overwatching obstacle.

b. **Breaching Fundamentals.** The breach fundamentals--suppress, obscure, secure, reduce, and assault (SOSRA)--always apply; however, they must adapt to the varying factors of METT-TC.

- Suppression protects friendly forces reducing and maneuvering through an obstacle. Successful suppression typically initiates the rest of the actions at the obstacle.
- Obscuration degrades observation and target acquisition of the enemy forces while concealing friendly force reduction and assault activities. Obscuration planning factors include wind direction, type of obscuration systems available (mechanical smoke, artillery delivered, mortar delivered, smoke pots), and the capabilities and limitations of these systems. Typically the most effective placement of obscuration is between the obstacle and the overwatching enemy forces.
- Friendly forces secure the point of breach to prevent enemy forces from interfering with the reduction of lanes and passage of assault forces. The breach force must be resourced with sufficient combat power to secure the point of breach.
- Reduction is the creation of lanes through an obstacle. Reduction can not be accomplished until effective suppression and obscuration is achieved and the point of breach secured. The breach force will reduce, proof, and mark the required number of lanes to pass the assault force through the obstacle. Follow-on forces will continue to improve and reduce the obstacle when required.
- The assault force's primary mission is to seize terrain on the far side of the obstacle in order to prevent the enemy from placing or observing direct and indirect fires on the reduction area.

c. **Breaching Organization.** Commanders develop COAs that organize friendly forces into a support force, a breach force, and an assault force to quickly and effectively execute the breach fundamentals (Table 7-1).

Breaching Organization	Breaching Fundamentals	Responsibilities
Support force	Suppress Obscure	Suppress enemy direct fire systems covering the reduction area. Control obscuring smoke. Prevent enemy forces from repositioning or counterattacking to place direct fires on the breach force.
Breach force	Suppress (provides additional suppression) Obscure (provides additional obscuration in the reduction area) Secure (provides local security) Reduce	Create and mark the necessary lanes in an obstacle. Secure the near side and far side of an obstacle. Defeat forces that can place immediate direct fires on the reduction area. Report the lane status and location.
Assault force	Assault Suppress (if necessary)	Destroy any enemy forces capable of placing direct fires on the reduction area from the far side of an obstacle. Assist the support force with suppression if the enemy is not effectively suppressed. Be prepared to breach follow-on and protective obstacles after passing through the reduction area.

Table 7-1. Breaching organization.

- Support force responsibilities are to isolate the reduction area with direct and indirect fires, suppress enemy's direct and indirect fire at the point of breach, and control obscuration.
- The breach force must have sufficient combat power to secure the point of breach as well as sufficient reduction assets to reduce required number of lanes through the obstacle. CFZs should be activated at the point of breach prior to commitment of the breach force to protect it from enemy indirect fires.
- The assault force's primary mission is the destruction of enemy forces on the far side of the obstacle to prevent the enemy from placing direct fires on the breach lanes.

d. **Mass.** The support force achieves mass by fixing and isolating enemy forces on the far side of the obstacle. The breach force achieves mass by planning 50% redundancy of breach assets, creating one vehicle lane per each assaulting company-sized element, and creating two lanes separated by 800 to 1000 meters (terrain dependent) to pass the battalion. The assault force achieves mass by projecting a 3:1 combat power ratio at the point of penetration (typically one isolated enemy platoon in an enemy company-sized defense for a battalion breach).

e. **Synchronization.** Synchronization of all combined arms elements to successfully achieve the breach fundamentals is essential. Commanders achieve synchronization through detailed reverse planning of offensive operations (from the objective back to the

assembly area), by issuing clear subordinate unit instructions, planning effective C2, and ensuring their forces are well rehearsed.

(1) Detailed reverse planning is initiated during IPB and development of enemy SITEMP. The scheme of maneuver, engineer operations, fires, air defense, and actions at the obstacle are all based upon this common SITEMP. Actions on the objective determine the size and composition of the assault force based upon desired 3:1 combat power ratio. The size of the assault force determines the number and location of breach lanes required. Lane requirements and disposition and composition of the obstacles determine the mobility asset requirement of the breach force. The enemy's ability to interfere with the breach force at the point of breach determines size and composition of the security element within the breach force. The enemy's ability to mass fires on the point of breach determines the amount of suppression required as well as the size and composition of the breach force. Battalion reverse planning begins with actions on the objective and continues to its deployment from tactical assembly areas in order to identify all mobility requirements. Reverse planning should include enemy special munition capabilities and effects (Figure 7-7).

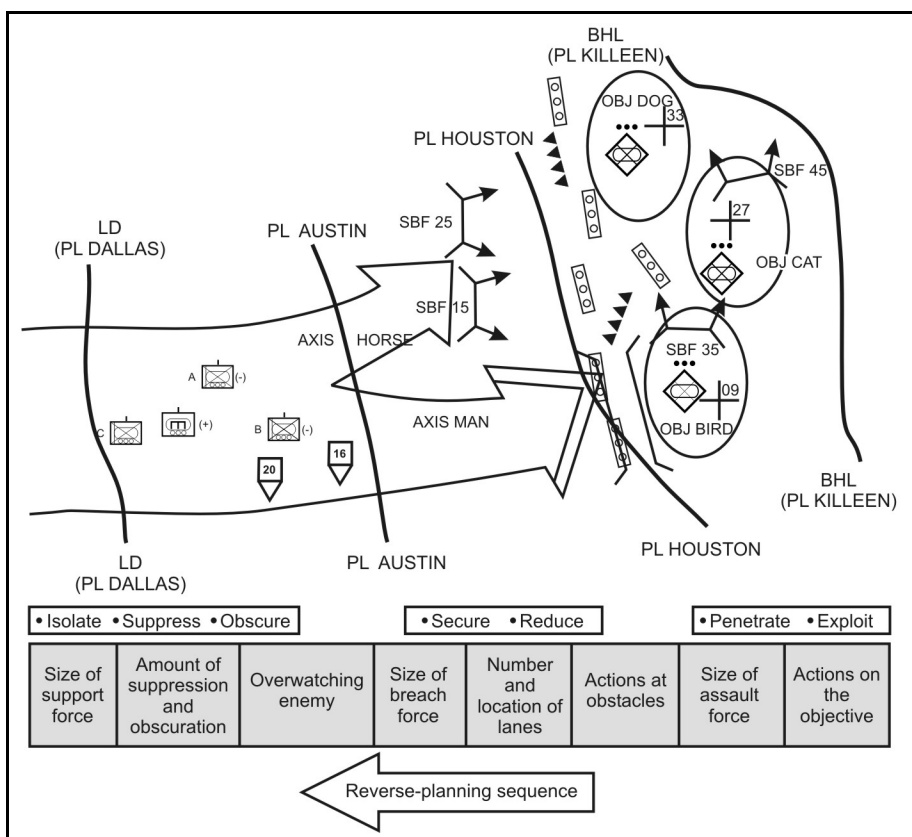


Figure 7-7. Reverse planning sequence.

7-22. COMBINED ARMS BREACH DURING DELIBERATE OPERATIONS

The following paragraphs discuss the detailed planning, preparation, and execution necessary in conducting a combined arms breach during deliberate operations.

a. **Planning.** Planning a breaching operation begins with the command and engineer estimates. The battalion S2 templates the enemy's order of battle (OB), and the engineer assesses its engineer capabilities. Both the engineer and S2 doctrinally template the enemy's tactical and protective obstacles. The staff develops COAs using the templates, and the engineer develops his scheme of engineer operations for each COA. After selecting a COA, the commander must carefully allocate available assets to the breach, assault, and support forces to ensure that they can accomplish their assigned tasks.

(1) Identifying the enemy's vulnerability is important so that the force can mass direct and indirect fires and maneuver against that weakness. The battalion isolates a portion of the enemy to achieve the desired combat ratio at the point of assault. It achieves mass by hitting the enemy from multiple directions and by narrowing attack zones to concentrate its force against a smaller defending element.

(2) When the attack requires breaching two or more complex obstacle systems, the commander must retain enough engineers and sufficient breaching assets to reduce subsequent obstacles. The commander must not commit all the engineers to breach the first obstacle system unless he is willing to risk his capability to breach follow-on obstacles. Depleted engineer forces need significantly more time to conduct follow-on breaches.

(3) In task organizing for a combined arms breach during a deliberate operation, the battalion commander considers having a support force task-organized with weapons capable of a high volume of direct suppressive fires. The breach force disposition and composition is METT-TC dependent and is determined by the combat power required to secure the point of breach and the reduction assets required to create the lanes.

(4) The commander maneuvers his combat power to create sufficient suppression and security for the breach to be successful. Adequate suppression, obscurity, and security trigger the commitment of assault and breach forces. When the breaching site is free of direct fires, the commander deploys the breach force to create lanes through the obstacle. The commander must sense the progress of the breach so he can decisively commit the balance of the force through the obstacle to continue the mission.

(5) The breach and assault forces may require fires and smoke under their control in addition to that controlled by the support force. The support, breach, and assault forces place direct fires on enemy positions. This makes synchronization of direct and indirect fires extremely complex. Fire control must be planned in detail using simple and well-understood control measures carefully rehearsed.

(6) When a battalion conducts a combined arms breach during a deliberate operation or plans to conduct a passage of lines of a large force after a breach, breach plans must include detailed planning for the staging and movement of follow-on forces and equipment.

b. **Preparing.** The battalion continues an aggressive intelligence collection plan using reconnaissance platoons, engineers, patrols, and aerial reconnaissance. The S2 and the battalion engineer continually refine the template based on intelligence. The battalion may adjust task organization as it uncovers more details of the defense and obstacle system. It also uses this information during the combined arms rehearsals.

(1) Continuous and aggressive intelligence-gathering operations update the enemy template as available. These changes are reflected as soon as possible in the rehearsal area. If updates become available after the last possible rehearsal, this data must be passed immediately to the affected force elements, especially the breach force.

(2) The battalion meticulously plans, manages, and controls the rehearsals. The battalion S3 allocates time for each unit to perform a combined arms battalion rehearsal. When possible, the force rehearses the operation under the same conditions expected during the actual engagement, including battlefield obscuration, darkness, NBC posture, and inclement weather. The rehearsal site reflects the actual obstacle system in as much detail as possible. The force chooses terrain as similar as possible to that of the operational area and constructs a practice obstacle system based on OBSTINTEL. Rehearsals include a leader and key personnel walk-through as well as individual rehearsals by support, breach, and assault forces.

(3) When the force commander rehearses the breaching operation, he also rehearses several contingency plans. The contingencies should include possible enemy counterattacks by counterattack forces and attack by enemy indirect fire systems (artillery, rockets, attack helicopters, and other air assets). Rehearsals also include enemy use of NBC munitions.

c. **Collecting Obstacle Intelligence.** The success of combined arms breaching during a deliberate operation depends heavily on the success of the ISR plan. The scheme of maneuver is based on known and templated intelligence of enemy positions and obstacles. NAIs are developed to confirm or deny the template. As intelligence reports come in, the template and ISR plan are updated and revised. The S2 develops the collection plan, with the reconnaissance platoon concentrating on confirming enemy locations. The engineers focus on gathering intelligence on obstacle orientation and composition as well as on the types of fortifications the battalion may encounter. Intelligence is used to refine the task organization of support, breach, and assault forces and the scheme of maneuver.

d. **Executing.** The force crosses the line of departure organized to conduct the combined arms breach. If the battalion encounters obstacles en route, it executes the breach with this organization. On arrival, the battalion's reconnaissance platoon adjusts artillery fires on the enemy positions to cover deployment of the support force. The support force moves into position and establishes its support-by-fire (SBF) position. Breach and assault forces move into position and prepare to execute their tasks. The battalion commander continues to incorporate last-minute information into his plan and makes final adjustments of positions and locations.

(1) The support force occupies its SBF position and immediately begins suppressing with a volley of fires. The support force FSE and battalion FSO execute group targets planned on enemy positions. Mortar and artillery smoke are adjusted to obscure the breaching site from enemy target acquisition. The breach force begins movement once suppression and smoke are effective, based on clearly defined commitment criteria. Timing is critical since the high volume of suppressing fires and smoke can be sustained only for a short duration. SBF positions have interlocking sectors of fires and are positioned to ensure suppression of the enemy's positions.

(2) Once suppression and obscuration have built to effective levels, the breach force moves forward to the breaching site. The engineers create the lanes while the combined

arms breach force provides for local security. As they finish the lanes, engineers create and send a digital overlay to assist the assault and following forces in maneuvering to the lanes. The assault force penetrates the objective after receiving the order from the battalion commander. Due to the complexity of the breach, the command and control systems spread out to ensure synchronization. The battalion S3 controls the multi-company team support force while the battalion commander positions himself where he can best control the entire breaching operation.

e. **Continuing the Attack.** The obstacle system acts as a choke point and is dangerous even after the battalion has overcome the defenses.

(1) The battalion constructs additional lanes to speed the passage of follow-on forces. Next, it widens the lanes to allow two-lane traffic through the obstacles and constructs switch lanes to prevent blocking by disabled vehicles or artillery fires. Deliberate marking and fencing systems are installed, and military police establish the necessary traffic control. Eventually, rear-area engineer forces clear the obstacles and eliminate the choke point. After passage through the lanes, the maneuver force continues its mission.

(2) Both the breaching and follow-on force must be aware of the potential for the enemy to reseed breached obstacles with remotely delivered SCATMINES or other rapidly emplaced obstacles. The breaching commander may develop a response plan and position remaining mobility assets in the vicinity of the breach lane(s) to rebreach, repair, or improve lanes as necessary. In addition, the commander may develop a reaction plan for maneuver or other forces that encounter a reseeded portion of the obstacle while passing through the lane. The commander of the follow-on force, regardless of the reported status of the breach lanes he is about to pass through, should organize mobility assets forward in his formation that are prepared to rebreach, repair, or improve these lanes as necessary.

7-23. COMBINED ARMS BREACH DURING HASTY OPERATIONS

Hasty operations are conducted when the enemy situation is vague and the commander may be required to execute the combined arms breach with his current task organization. Therefore, the battalion commander must either task-organize his subordinate company teams with sufficient combat power to conduct company team-level breaching operations or have a plan that allows for the flexible application of combat power necessary to execute breaching operations. When conducting offensive operations such as a movement to contact, while participating in an exploitation or pursuit, and when conducting passage of lines (forward or rearward) and movements through defiles, the battalion commander must address breaching operations. The battalion breach planning considerations and process discussed previously apply to combined arms breach planning during hasty operations as well. The only difference is the organizational echelon at which the breach is planned, prepared for, and executed.

a. **Planning.** Breach planning begins with IPB and engineer battlefield assessment (EBA) as part of the command and engineer estimate. The battalion S2 and engineer jointly develop a SITEMP of the enemy disposition, most probable COA, and OBSTINTEL. The SITEMP is the focal point of force allocation and breach planning. If little is known about the situation, the S2 and the engineer identify areas where the enemy is likely to use obstacles or has used obstacles in recent operations. The engineer and S3

should also request information from higher headquarters on recent friendly use of obstacles in the area of operations.

b. **Battalion Task Organization.** Subsequent to COA development, the commander and staff anticipate where units are most likely to encounter obstacles based on the scheme of maneuver and SITEMP. From this analysis, the commander refines his task organization, if necessary, in order to apply the combat power required to execute the templated breach. Additionally, the engineer recommends a task organization of engineer platoons and critical breaching equipment to create enough lanes for the breaching unit. He maintains a mobility reserve under his control that can create additional lanes for follow-on forces. This mobility reserve can also mass mobility assets if the battalion must transition to a deliberate operation. The battalion FSO designs his fire plan to provide priority of fires and smoke to company teams likely to conduct a breach. The air defense officer (ADO) decentralizes the positioning of air defense weapons to provide local coverage of company teams during actions on contact and at obstacles. Above all, the commander task-organizes company teams for the mission first. He then modifies the task organization where necessary to provide company teams with the additional forces needed to conduct independent breaching operations as part of the battalion effort.

c. **Company Team Task Organization.** A battalion plans for the hasty operation breach by appropriately task-organizing subordinate company teams. The subordinate commander develops the details necessary for success. In a battalion hasty operation breach, the company team commander further task-organizes his force and designates specific support, breach, and assault forces. Since conducting the breach involves only committing the combat power within the company team, the team commander incurs the responsibility to develop plans that synchronize the breaching effort and achieve the breaching fundamentals (SOSRA). The assault force moves through the lanes, deploys, and continues the attack to destroy the defending enemy forces. Company team breach planning is deliberate (Table 7-1, page 7-29). It requires the team commander to develop a team scheme of maneuver or an immediate action drill that maneuvers support, breach, and assault forces (platoons) to apply SOSRA breaching fundamentals on obstacle contact. If the enemy situation is unknown, then support, breach, and assault forces execute their missions on order as part of an action-on-contact drill.